

<p>1. Title</p> <p>A meta-analysis of the impacts of operating in-vehicle information systems on road safety</p>
<p>2. Recipient Candidates</p> <p>Apostolos Ziakopoulos, Athanasios Theofilatos, Eleonora Papadimitriou, George Yannis</p>
<p>3. Reason for Recommendation</p> <p>This research is recommended for this award because it has made a significant contribution to the statistical elucidation of traffic accident reduction, which is important in traffic safety research. To reduce the number of traffic accidents, it is extremely important to have basic knowledge of the major causes of accidents. In particular, when new next-generation technologies are introduced, there are many unknown aspects of the accidents associated with them, and as a new type of accident, "operation of in-vehicle information systems while driving (IVIS)" has been attracting a great deal of attention in traffic safety research in recent years.</p> <p>Based on this recognition, empirical studies focusing on accidents caused by the operation of in-vehicle systems have been conducted to date. However, all of these studies were only partial sample studies and not empirical studies based on a wealth of data randomly extracted from the population. As a result, the key indicator of the frequency of accidents caused by the operation of in-vehicle systems has been different in each study. Therefore, it has been difficult to conduct basic studies on traffic accident countermeasures associated with the operation of in-vehicle systems while driving.</p> <p>This study focuses on this problem and aims to examine more effective countermeasures for "traffic accidents caused by the operation of in-vehicle systems" and uses a methodology called "random-effects meta-analysis", which has rarely been applied in road safety research. They have obtained reliable empirical findings on traffic accidents caused by the operation of in-vehicle systems by utilizing all the available empirical data reported in the history of traffic safety research. The "random-effects meta-analysis" method used in this research is a traditional method commonly used in behavioral science research, etc. It is a statistical technique to estimate the population more accurately by considering different empirical research data as data extracted from the same population through different sampling.</p> <p>As a result, this study estimates that 1.66% of all traffic accidents are caused by the operation of in-vehicle systems. In previous studies, the reported values of this percentage ranged from 0.2% to 2.46%, and it was difficult to narrow down the level. If the rate is 0.2%, it can be judged that it is extremely small and no large-scale effort is necessarily needed to reduce it, but if it is 1.66%, it cannot be said to be small, and we can conclude that future measures are extremely important. On the other hand, for professional drivers, the percentage drops to 0.60%, which is about one-third. This clearly shows that the improvement of driving skills can reduce the number of accidents caused by the operation of in-vehicle systems.</p> <p>In this way, this research has succeeded in revealing important findings in traffic safety research that have not been revealed in previous studies, using a new method that can be called revolutionary in traffic safety research. As such, this paper has made a significant contribution to traffic safety research from both an academic and practical perspective and is therefore recommended as a worthy recipient of this year's IATSS Best Paper Award.</p>